

Figure 1.

Matrix Plot

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Figure 2

Matrix Plot

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Figure 3

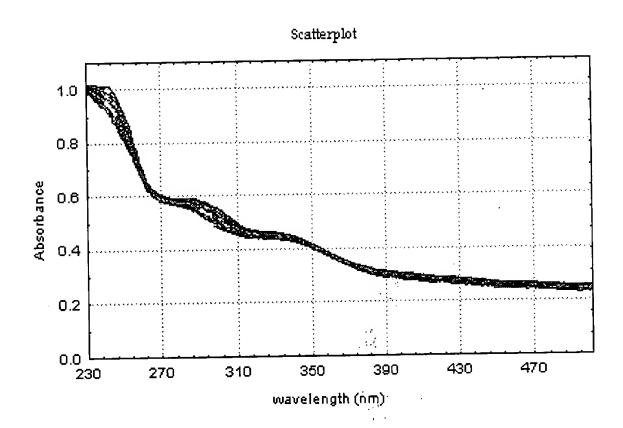
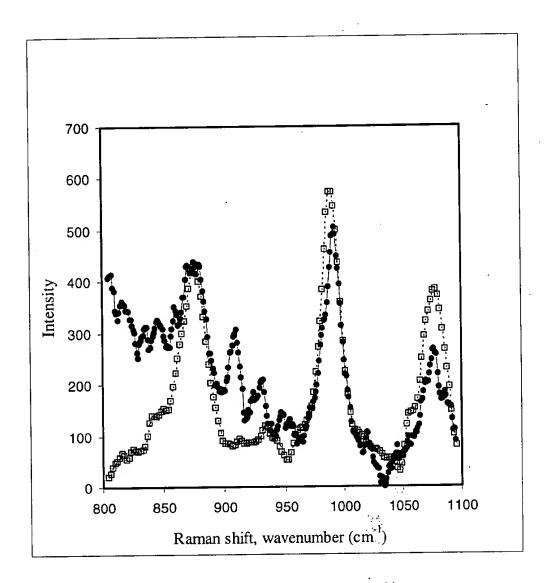


Figure 4

9300 2 2 2 2 2 2 2 ş 8 Matrix Plot 2002 9 1 2002 2002 Ş ğ 828 TEMP

Figure 5

France 6



- --□-- dispersive system (514.5 nm laser)
- -- •-- FT system (1064 nm laser)

Figure 7

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#### Water Subtraction and Baseline Correction 1200 1000 Intensity (arbitrary units) 800 600 400 baseline 200 corrected data 0 final data -200 400 1600 2000 800 1200

Raman shift wavenumber (cm<sup>-1</sup>)

Figure 8

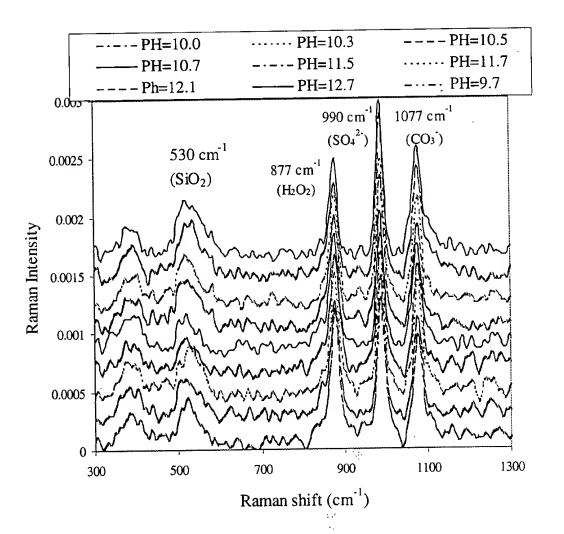


Figure 9

# Matrix Plot Aspen TMP Pulp Bleaching with Hydrogen Peroxide Pulp and Bleaching Pressate Properties

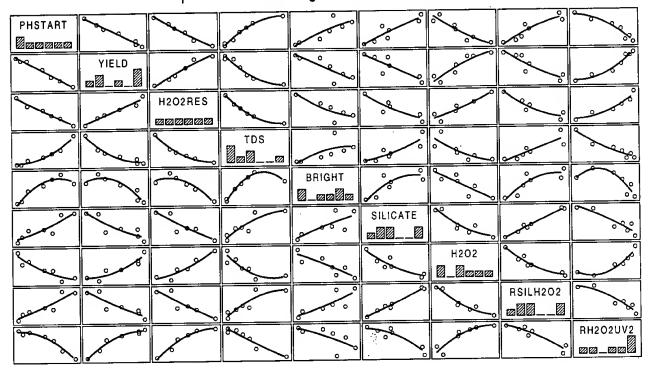


Figure 10

### Raman Spectra Hydrogen Peroxide Bleaching of Aspen

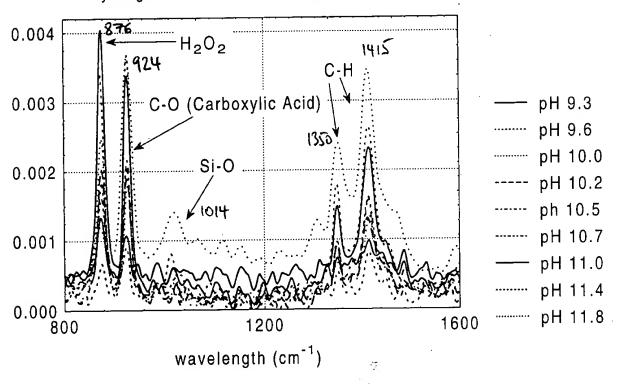


Figure 11

# Predicted vs. Observed Values Dependent variable: ISO BRIGHTNESS Independent variables Raman intensities and intensity ratio

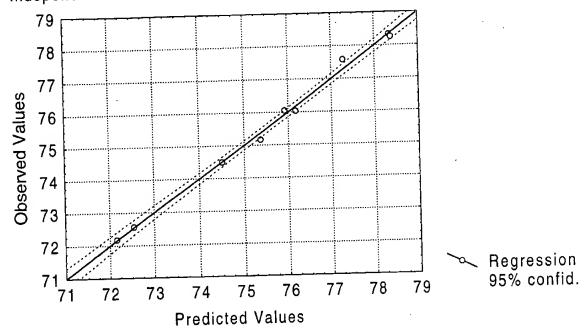


Figure 12

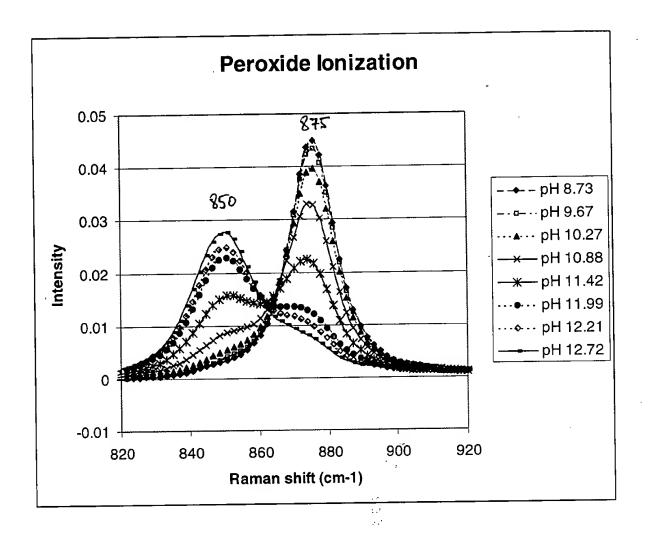


Figure 13

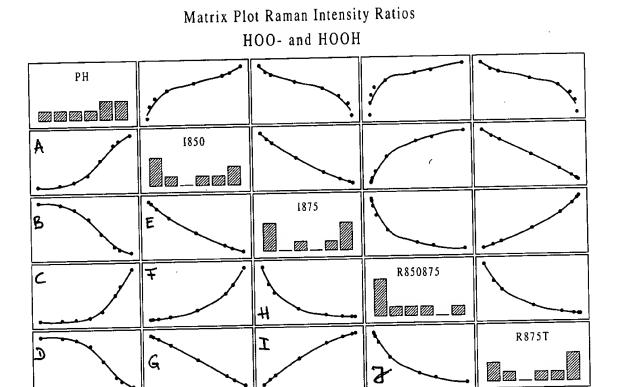


Figure 14

Ξ.

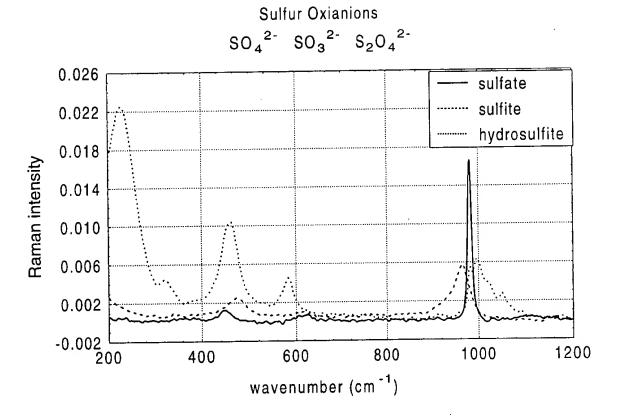


Figure 15

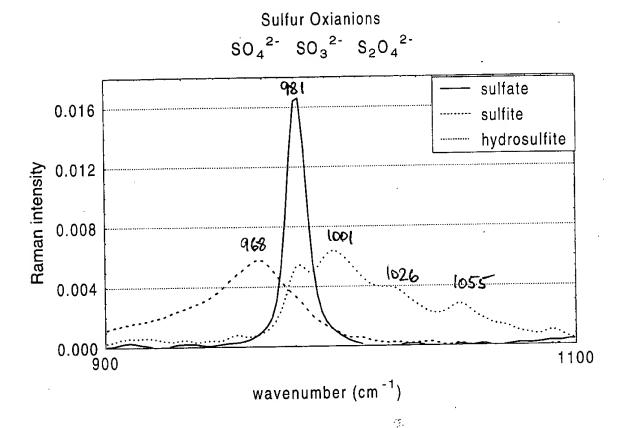


Figure 16

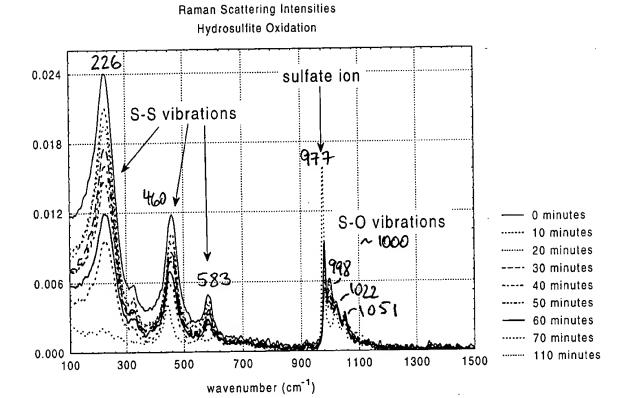


Figure 17

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## Raman Spectra (S-O stretch) Hydrosulfite Oxidation

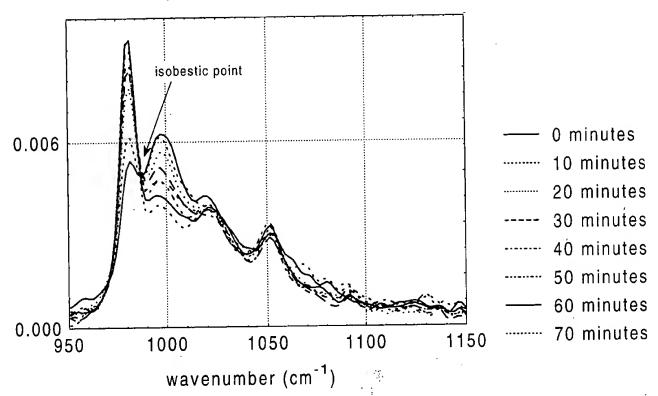


Figure 18

# Matrix Plot Hydrosulfite Oxidation Raman Intensities and Ratios with ORP

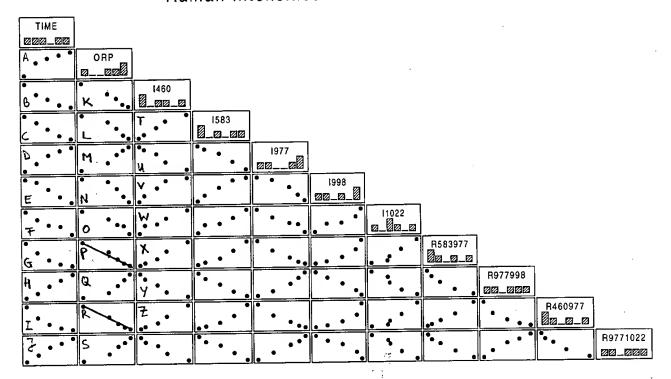


Figure 19

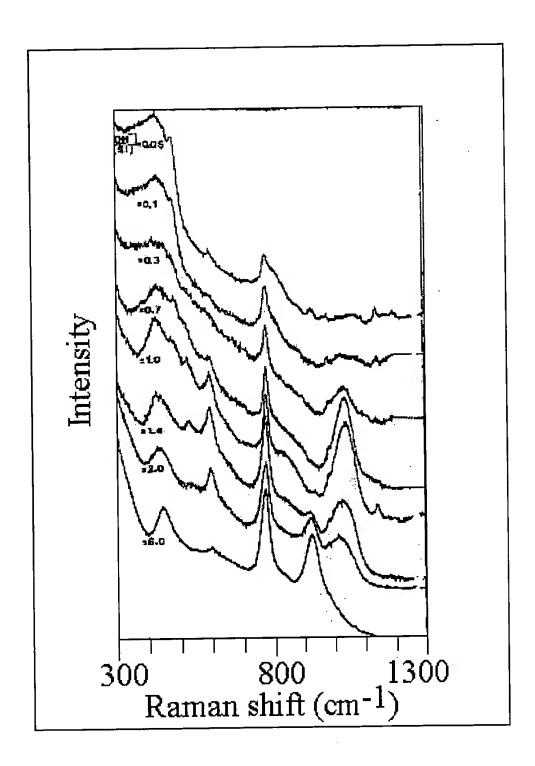


Figure 20

## Matrix Plot Raman Data Silicate Peak Intensities vs NaOH Added

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Figure 21

### Matrix Plot (Raman Peak Intensities)

#### Silicate Data

Data Extracted From P.K. Dutta and D.-C. Sheih Applied Spectroscopy 39 (2) 343-6

NAOH	•	·		••••••	• • • • • •	٠,	•••
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Figure 22

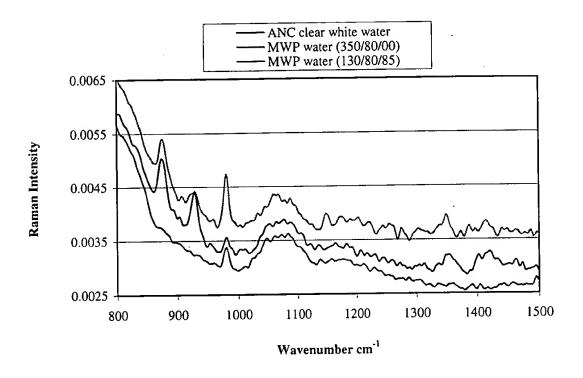


Figure 23

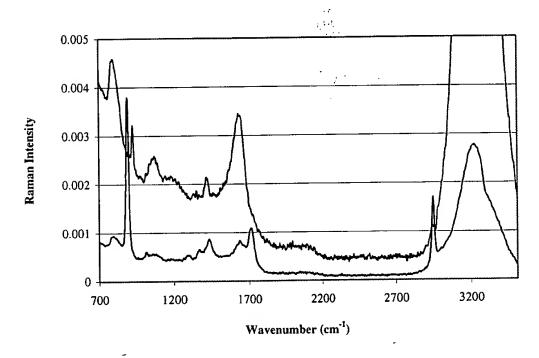


Figure 24